
conceptnet-lite

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LDT team

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CONCEPTNET_LITE

1.1 Module contents

class conceptnet_lite.PartOfEdge

Bases: enum.Enum

An enumeration.

ANY = 'any'

END = 'end'

START = 'start'

`conceptnet_lite.connect` (*db_path*='conceptnet.db', *db_download_url*='https://conceptnet-lite.fra1.cdn.digitaloceanspaces.com/conceptnet.db.zip',
delete_compressed_db=True, *dump_download_url*='https://s3.amazonaws.com/conceptnet/dumps/20190101/20190101_assertions-5.7.0.csv.gz', *load_dump_edge_count*=34074917,
delete_compressed_dump=True, *delete_dump*=True)

Connect to ConceptNet database.

This function connects to ConceptNet database. If it does not exists, there are two options: to download ready database or to download the compressed ConceptNet dump, extract it, and load it into database (pass *db_download_url=None* for this option).

Parameters

- **db_path** (Union[Path, str]) – Path to the database.
- **db_download_url** (Optional[str]) – Link to compressed ConceptNet database. Pass *None* to build the db from dump.
- **delete_compressed_db** (bool) – Delete compressed database after extraction.
- **dump_download_url** (str) – Link to compressed ConceptNet dump.
- **load_dump_edge_count** (int) – Number of edges to load from the beginning of the dump file. Can be useful for testing.
- **delete_compressed_dump** (bool) – Delete compressed dump after unpacking.
- **delete_dump** (bool) – Delete dump after loading into database.

Return type None

`conceptnet_lite.edges` (*part_of_edge*, *concepts*, *relation=None*, *same_language=False*)

Return type ModelSelect

`conceptnet_lite.edges_between` (*start_concepts*, *end_concepts*, *relation=None*, *two_way=False*)

Return type `ModelSelect`

`conceptnet_lite.edges_for` (*concepts*, *relation=None*, *same_language=False*)

Return type `ModelSelect`

`conceptnet_lite.edges_from` (*start_concepts*, *relation=None*, *same_language=False*)

Return type `ModelSelect`

`conceptnet_lite.edges_to` (*end_concepts*, *relation=None*, *same_language=False*)

Return type `ModelSelect`

1.2 conceptnet_lite.db module

class `conceptnet_lite.db.Concept` (**args*, ***kwargs*)

Bases: `conceptnet_lite.db._BaseModel`

Concept ORM class.

Concept represents node in ConceptNet knowledge graph. It provides properties *language* and *text* that are aliases for corresponding *Label.language* and *Label.text* fields.

This abstraction is not present in the original ConceptNet. Class is introduced for the purposes of normalization.

DoesNotExist

alias of `ConceptDoesNotExist`

edges_in

edges_out

classmethod `get` (**query*, ***filters*)

id = `<AutoField: Concept.id>`

label = `<ForeignKeyField: Concept.label>`

label_id = `<ForeignKeyField: Concept.label>`

property *language*

Return type *Language*

sense_label = `<TextField: Concept.sense_label>`

property *text*

Return type `str`

property *uri*

Return type `str`

class `conceptnet_lite.db.Edge` (**args*, ***kwargs*)

Bases: `conceptnet_lite.db._BaseModel`

Edge ORM class.

See: <https://github.com/commonsense/conceptnet5/wiki/Edges>.

Everything except relation, start, and end nodes is stored in *etc* field that is plain dict.

```

DoesNotExist
    alias of EdgeDoesNotExist

end = <ForeignKeyField: Edge.end>
end_id = <ForeignKeyField: Edge.end>
etc = <JSONField: Edge.etc>
classmethod get (*query, **filters)
id = <AutoField: Edge.id>
relation = <ForeignKeyField: Edge.relation>
relation_id = <ForeignKeyField: Edge.relation>
start = <ForeignKeyField: Edge.start>
start_id = <ForeignKeyField: Edge.start>
property uri

    Return type str

```

```

class conceptnet_lite.db.Label (*args, **kwargs)
    Bases: conceptnet_lite.db._BaseModel

    Label ORM class.

```

Label can be seen as a part of *Concept*. *Label* is basically a text on a certain language (most often, a word). This abstraction is not present in the original ConceptNet. Class is introduced for the purposes of normalization.

```

DoesNotExist
    alias of LabelDoesNotExist

concepts

classmethod get (*query, **filters)
id = <AutoField: Label.id>
language = <ForeignKeyField: Label.language>
language_id = <ForeignKeyField: Label.language>
text = <TextField: Label.text>

```

```

class conceptnet_lite.db.Language (*args, **kwargs)
    Bases: conceptnet_lite.db._BaseModel

    Language ORM class.

```

See: <https://github.com/commonsense/conceptnet5/wiki/Languages>.

```

DoesNotExist
    alias of LanguageDoesNotExist

id = <AutoField: Language.id>
labels
name = <TextField: Language.name>

```

```
class conceptnet_lite.db.Relation(*args, **kwargs)
    Bases: conceptnet_lite.db._BaseModel

    Relation ORM class.

    See: https://github.com/commonsense/conceptnet5/wiki/Relations.

    DoesNotExist
        alias of RelationDoesNotExist

    edges

    id = <AutoField: Relation.id>
    name = <TextField: Relation.name>
    property uri

        Return type str

class conceptnet_lite.db.RelationName
    Bases: object

    Names of non-deprecated relations.

    See: https://github.com/commonsense/conceptnet5/wiki/Relations.

    ANTONYM = 'antonym'
    AT_LOCATION = 'at_location'
    CAPABLE_OF = 'capable_of'
    CAUSES = 'causes'
    CAUSES_DESIRE = 'causes_desire'
    CREATED_BY = 'created_by'
    DEFINED_AS = 'defined_as'
    DERIVED_FROM = 'derived_from'
    DESIRES = 'desires'
    DISTINCT_FROM = 'distinct_from'
    ETYMOLOGICALLY_DERIVED_FROM = 'etymologically_derived_from'
    ETYMOLOGICALLY_RELATED_TO = 'etymologically_related_to'
    EXTERNAL_URL = 'external_url'
    FORM_OF = 'form_of'
    HAS_A = 'has_a'
    HAS_CONTEXT = 'has_context'
    HAS_FIRST_SUBEVENT = 'has_first_subevent'
    HAS_LAST_SUBEVENT = 'has_last_subevent'
    HAS_PREREQUISITE = 'has_prerequisite'
    HAS_PROPERTY = 'has_property'
    HAS_SUBEVENT = 'has_subevent'
    IS_A = 'is_a'
```


LOCATED_NEAR = 'located_near'
MADE_OF = 'made_of'
MANNER_OF = 'manner_of'
MOTIVATED_BY_GOAL = 'motivated_by_goal'
OBSTRUCTED_BY = 'obstructed_by'
PART_OF = 'part_of'
RECEIVES_ACTION = 'receives_action'
RELATED_TO = 'related_to'
SIMILAR_TO = 'similar_to'
SYMBOL_OF = 'symbol_of'
SYNONYM = 'synonym'
USED_FOR = 'used_for'

`conceptnet_lite.db.download_db(url='https://conceptnet-lite.fra1.cdn.digitaloceanspaces.com/conceptnet.db.zip',
db_path='conceptnet.db', delete_compressed_db=True)`

Download compressed ConceptNet dump and extract it.

Parameters

- **url** (str) – Link to compressed ConceptNet database.
- **db_path** (Union[Path, str]) – Path to resulting database.
- **delete_compressed_db** (bool) – Delete compressed database after extraction.

Return type None

`conceptnet_lite.db.download_dump(url='https://s3.amazonaws.com/conceptnet/downloads/2019/edges/conceptnet-assertions-5.7.0.csv.gz', out_dir_path=PosixPath('/home/docs/checkouts/readthedocs.
lite/checkouts/latest/docs/source'))`

Download compressed ConceptNet dump.

Parameters

- **url** (str) – Link to the dump.
- **out_dir_path** (Union[Path, str]) – Dir where to store dump.

`conceptnet_lite.db.extract_compressed_dump(compressed_dump_path,
delete_compressed_dump=True)`

Extract compressed ConceptNet dump.

Parameters

- **compressed_dump_path** (Union[Path, str]) – Path to compressed dump to extract.
- **delete_compressed_dump** (bool) – Delete compressed dump after extraction.

`conceptnet_lite.db.load_dump_to_db(dump_path, db_path, edge_count=34074917,
delete_dump=True)`

Load dump to database.

Parameters

- **dump_path** (Union[Path, str]) – Path to dump to load.
- **db_path** (Union[Path, str]) – Path to resulting database.

- **edge_count** (*int*) – Number of edges to load from the beginning of the dump file. Can be useful for testing.
- **delete_dump** (*bool*) – Delete dump after loading into database.

```
conceptnet_lite.db.prepare_db(db_path, dump_download_url='https://s3.amazonaws.com/conceptnet/downloads/2019/ea  
assertions-5.7.0.csv.gz', load_dump_edge_count=34074917,  
delete_compressed_dump=True, delete_dump=True)
```

Prepare ConceptNet database.

This function downloads the compressed ConceptNet dump, extracts it, and loads it into database. First two steps are optional, and are executed only if needed.

Parameters

- **db_path** (*Union[Path, str]*) – Path to the resulting database.
- **dump_download_url** (*str*) – Link to compressed ConceptNet dump.
- **load_dump_edge_count** (*int*) – Number of edges to load from the beginning of the dump file. Can be useful for testing.
- **delete_compressed_dump** (*bool*) – Delete compressed dump after extraction.
- **delete_dump** (*bool*) – Delete dump after loading into database.

1.3 database schema

INDICES AND TABLES

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